

What is Claimed Is:

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1. A photocurable resin composition comprising:
    - (A) a cationically polymerizable organic compound;
    - (B) a cationic photopolymerization initiator;
    - (C) an ethylenically unsaturated monomer;
    - (D) a radical photopolymerization initiator; and
    - (E) a polyol.
  - 10 2. The photocurable resin composition according to claim 1, wherein the composition comprises, relative to the total weight of the composition, 20-85 wt% component (A), 5-45 wt% component (C), and 5-35 wt% component (E).
  - 15 3. A photocurable resin composition according to any one of claims 1-2, wherein said component (A) comprises at least one compound having two or more alicyclic epoxy groups.
  - 20 4. A photocurable resin composition according to any one of claims 1-3, wherein component (C) comprises at least one polyfunctional ethylenically unsaturated monomer.
  - 25 5. A photocurable resin composition according to any one of claims 1-4, wherein component (E) comprises at least one polyether polyol having 3-6 hydroxyl groups.
  - 30 6. The photocurable resin composition according to claims 1-5, wherein said composition further comprises elastomer particles.

7. The photocurable resin composition according to  
claim 6, wherein said elastomer particles have  
an average particle diameter of 10-700 nm.
- 5 8. A photocurable resin composition according to any  
one of claims 6-7, wherein the elastomer particles  
include core-shell particles.
- 10 9. A photocurable resin composition according to any  
one of claims 6-8, wherein the elastomer particles  
having a base component including polybutadiene,  
polyisoprene, styrene/butadiene copolymer,  
styrene/isoprene copolymer, ethylene/propylene  
copolymer, ethylene/olefin copolymer,  
ethylene/olefin/polyene copolymer, acrylic rubber,  
butadiene/(meth)acrylate copolymer,  
styrene/butadiene block copolymer, or  
styrene/isoprene block copolymer
- 15 20 10. A photocurable resin composition according to any  
one of claims 6-9, wherein the elastomer particles  
include at least one core-shell particle having a  
partially crosslinked core comprising  
polybutadiene, polyisoprene, styrene/butadiene  
copolymer, styrene/isoprene copolymer,  
butadiene/(meth)acrylate copolymer,  
styrene/butadiene block copolymer, or  
styrene/isoprene block copolymer; and  
a shell comprising a methyl methacrylate polymer,  
30 methyl methacrylate/glycidyl copolymer, or  
methacrylate copolymer.
- 35 11. A photocurable resin composition according to any  
one of claims 1-10, wherein said composition  
further comprises an epoxy-branched alicyclic  
compound (G).

12. A photocurable resin composition according to claim 11, wherein said epoxy-branched alicyclic compound (G) comprises at least 2 epoxy-branched alicyclic groups.
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13. A photocurable resin composition according to any one of claims 11-12, wherein said epoxy-branched alicyclic compound (G) comprises an epoxyethyl group.
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14. A photocurable resin composition according to any one of claims 11-13, wherein said epoxy-branched alicyclic compound (G) comprises a residue of an organic compound having a valency of from 1-100.
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15. A photocurable resin composition according to any one of claims 11-14, wherein said epoxy-branched alicyclic compound (G) comprises a residue of an organic compound linked via an oxy group to at least one epoxyalkyl-branched cycloalkyl group.
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16. A photocurable resin composition according to any one of claims 11-15, wherein said epoxy-branched alicyclic compound (G) comprises an epoxyalkyl-branched cycloalkyl group that is hydroxy substituted.
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17. A photocurable resin composition according to any one of claims 11-16, wherein said epoxy-branched alicyclic compound (G) includes a hydroxyepoxyethylcyclohexyl group.
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18. A photocurable resin composition according to any one of claims 11-17, wherein said epoxy-branched alicyclic compound (G) includes a 1-hydroxy-3-(1,2-epoxyethyl)cyclohexyl group.
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19. A process for photo-fabricating a three-dimensional object comprising: selectively curing a photo-curable resin according to any one of claims 1-18.

20. A three-dimensional object formed from a photocurable resin composition according to any one of claims 1-18, or with a process according to claim 19.

